

Fig. 1

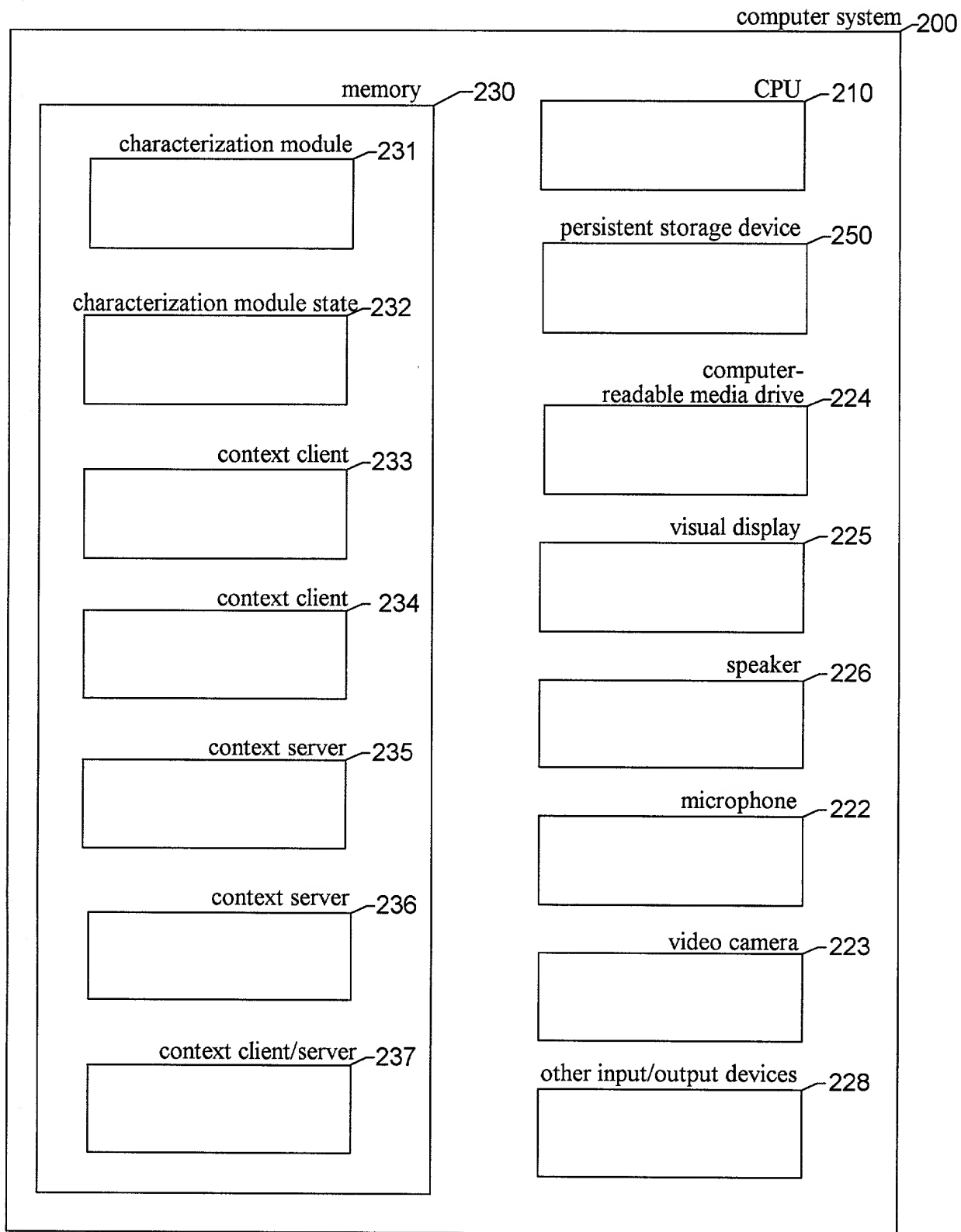


Fig. 2

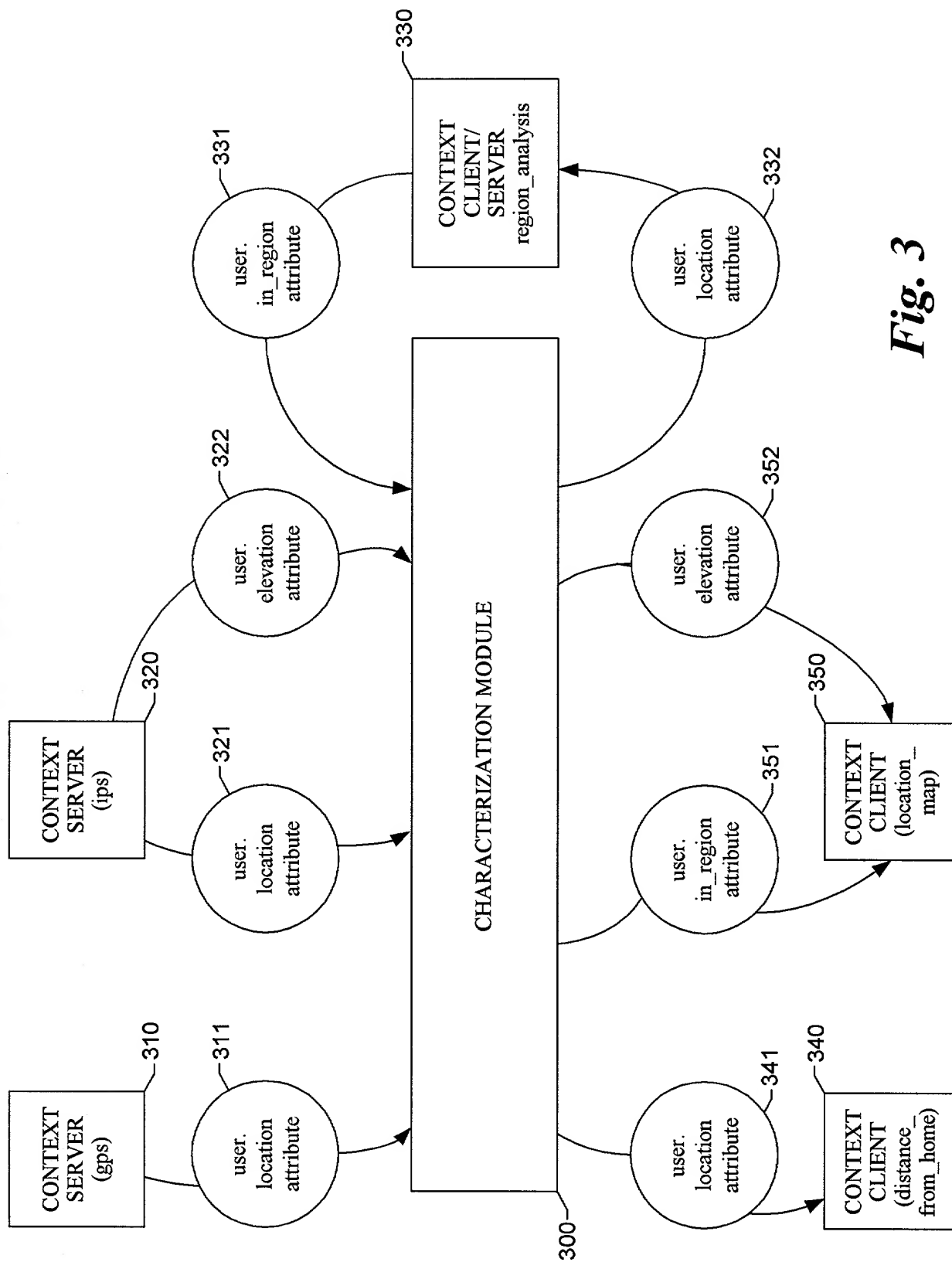


Fig. 3

context server table 400				
context server name	version	installation date	filename	request handler
401 gps	1	2/10/2000	gps.exe	(reference)
402 ips	1	2/21/2000	ips.exe	(reference)
403 location_region_analysis	1	2/10/2000	l_r_a.exe	(reference)

Fig. 4

attribute instance table						
attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
501 user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
502 user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
503 user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
504 user.in_region	location_region_analysis	none	none	none	none	0

Fig. 5

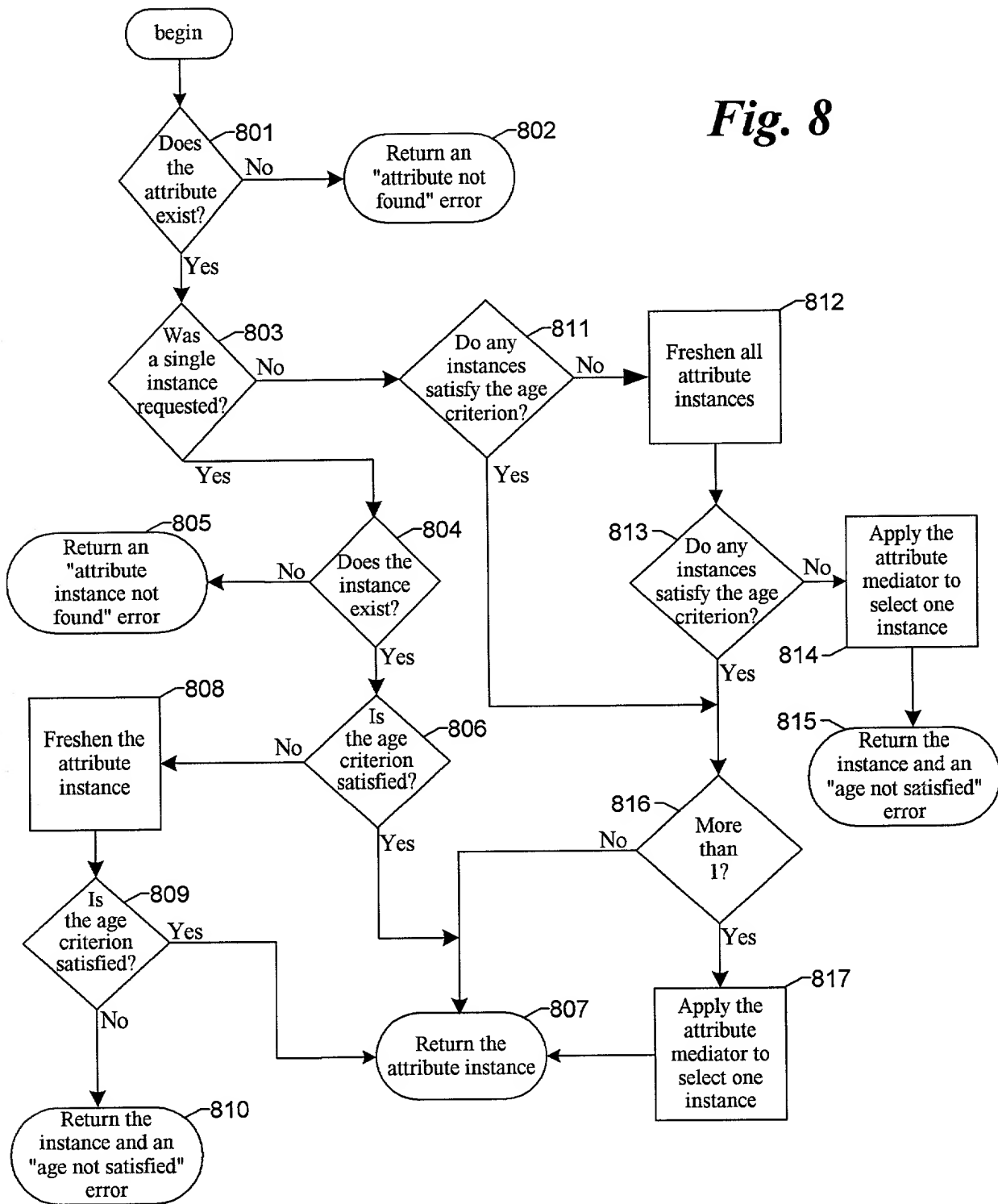
600	context client name	message handler	context client table
601	location_map	(reference)	
602	distance_from_home	(reference)	
603	region_analysis	(reference)	

Fig. 6

700	attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
701	user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
702	user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
703	user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
704	user.in_region	location_region_ analysis	none	none	none	none	1

Fig. 7

Fig. 8



900	attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
901	user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
902	user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
903	user.elevation	ips	22.25	.5	13:11:06.565 2/22/2000	meters	1
904	user.in_region	region_analysis	none	none	none	none	1

Fig. 9

1000	condition name	context client name	first logical parameter	second logical parameter	comparison value	logical operator
1001	in_region_true	region_analysis	user.in_region	none	TRUE	=

Fig. 10

condition monitor table								
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped	
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:29.101 2/22/2000	(reference)	no	

Fig. 11

condition monitor table								
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped	
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:59.101 2/22/2000	(reference)	yes	

Fig. 12

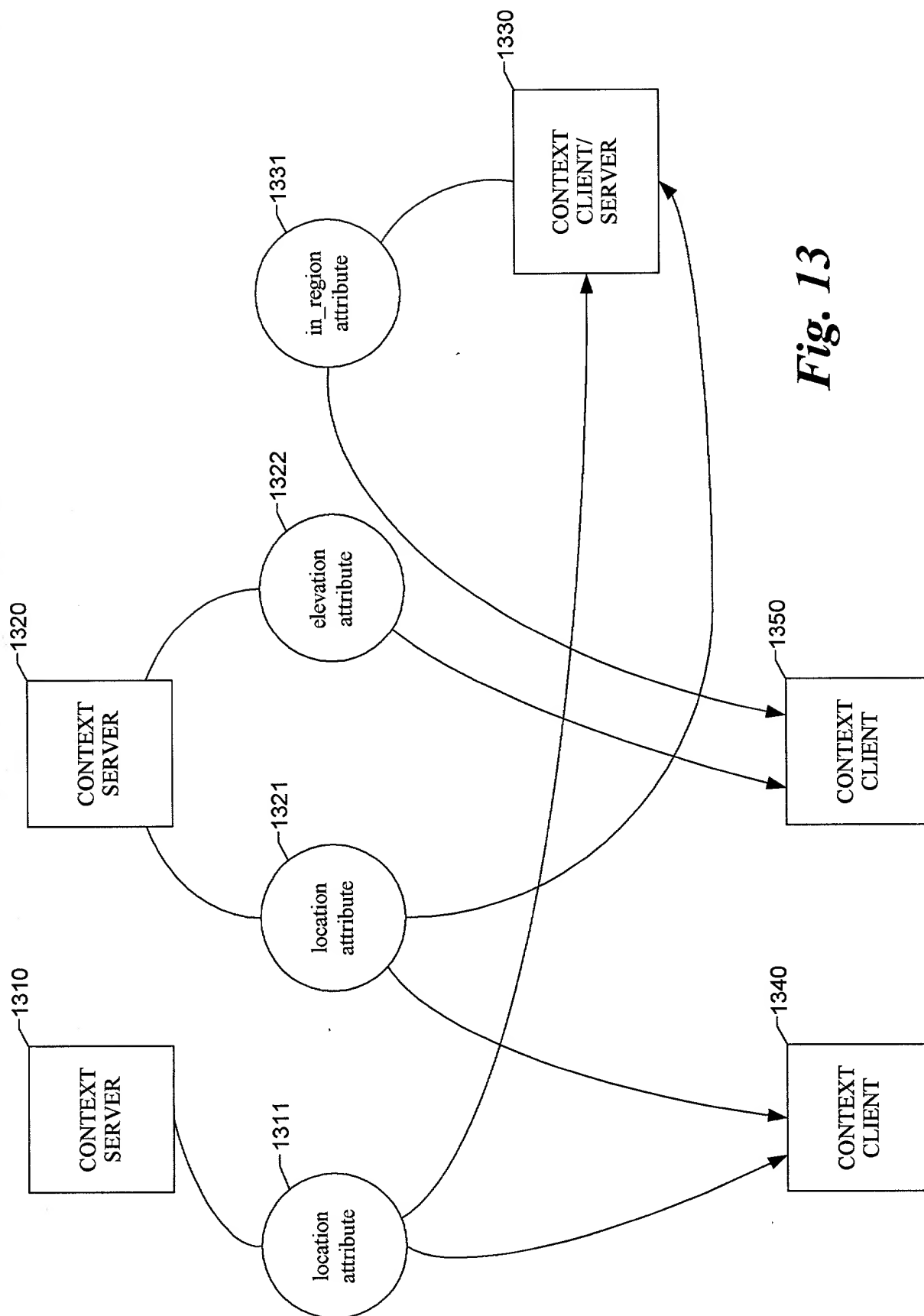


Fig. 13

attribute request table

	attribute name	context client name
1401	user.location	distance_from_home
1402	user.in_region	location_map
1403	user.location [gps]	location_region_analysis
1404	user.elevation	location_map

1411
1412

Fig. 14

User.

- Desired_privacy_level
- Interruptibility
- Speed
- Direction
- Acceleration
- Availability.
 - Cognitive_availability
 - Tactile_availability
 - Manual_availability
 - Visual_availability
 - Oral_availability
 - Auditory_availability
- Proximity.<Item or place name>
- Mood.
 - Happiness
 - Sadness
 - Anger
 - Frustration
 - Confusion
- Activity.
 - Driving
 - Eating
 - Running
 - Sleeping
 - Talking
 - Typing
 - Walking
- Location.
 - Place_name
 - Latitude
 - Longitude
 - Altitude
 - Room
 - Floor
 - Building
 - Address
 - Street
 - City
 - County
 - State
 - Country
 - Postal_Code
- Destination. (same as User.Location.)
- Physiology.
 - Pulse
 - Body_temperature
 - Blood_pressure
 - Respiration

Person.<name or ID>. (same as User.)

Platform.

- UI.
 - Oral_input_device_availability
 - Manual_input_device_availability
 - Tactile_output_device_availability
 - Visual_output_device_availability
 - Auditory_output_device_availability

Platform. (continued)

- CPU.
 - Load
 - Speed
- Memory.
 - Total_capacity
 - Used
- Storage.
 - Total_capacity
 - Used
- Connectivity.
 - Connection_status
 - Connection_speed
 - Connection_type/device
 - Connection_activity
- Power.
 - Power_source
 - Power_level

Environment.

- People.
 - Nearest
 - Number_present
 - Number_close
- Local.
 - Time
 - Date
 - Temperature
 - Pressure
 - Wind_speed
 - Wind_direction
 - Absolute_humidity
 - High_forecast_temperature
 - Low_forecast_temperature
 - People_present
 - Ambient_noise_level
 - Ambient_light_level
 - Days.<previous or future>.
 - High_temperature
 - Low_temperature
 - Precipitation_type
 - Precipitation_amount
- Place.<place name>. (same as Environment.Local)

Application.

- Mail.
 - Available
 - New_messages_waiting
 - Messages_waiting_to_be_sent
- Phone.
 - Available
 - In_use
 - On/off
 - Notification_mechanism
 - Call_incoming
 - Caller_ID
- Sound_recorder.
 - Available
 - Recording

Fig. 15

Fig. 16

- 1) User Setting
 - a) Mental Context
 - i) Meaning
 - ii) Cognition
 - (1) Divided User Attention
 - (2) Task Switching
 - (3) Background Awareness
 - iii) Solitude
 - iv) Privacy
 - (1) Desired Privacy
 - (2) Perceived Privacy
 - v) Social Context
 - vi) Affect
 - b) Physical Situation
 - i) Body
 - (1) Biometrics
 - (2) Posture
 - (3) Motion
 - (4) Physical Encumberment
 - (a) Senses
 - (i) Eyes
 - (ii) Ears
 - (iii) Tactile
 - (iv) Hands
 - (v) Nose
 - (vi) Tongue
 - (b) Workload demands/effects
 - (c) Interaction with computer devices
 - (d) Interaction with people
 - (e) Physical Health
 - ii) Environment
 - (1) Time/Space
 - (2) Objects
 - (3) Persons
 - (a) Audience/Privacy Availability
 - (i) Scope of Disclosure
 - (ii) Hardware affinity for privacy
 - (iii) Privacy Indicator for User
 - (iv) Privacy Indicator for Public
 - (v) Watching Indicator
 - (vi) Being Observed Indicator
 - (4) Ambient Interference
 - (a) Visual
 - (b) Audio
 - (c) Tactile
- 2) Computer
 - a) Power
 - b) Configuration
 - i) User Input Systems
 - (1) Hand/Haptic
 - (a) Keyboard/Keystrokes
 - (2) Voice/Audio
 - (3) Eye Tracking
 - (4) Cursors
 - (a) Axis
 - (b) Resolution
 - (i) Selection
 - (ii) Invocation
 - (c) Accelerators
 - ii) Output Systems
 - (1) Visual
 - (a) Resolution
 - (2) Audio
 - (a) Public/Private
 - (3) Haptic
 - iii) External Resources
 - (1) I/O devices
 - (2) Connectivity
 - c) Data
 - i) Quantity/State
 - ii) Urgency/Importance
 - (1) Use of Prominence
 - iii) Modality
 - iv) Sensitivity/Purpose
 - (1) Privacy Issues
 - (2) Use of Association
 - (3) Use of Safety
 - v) Source/Ownership
 - (1) Types
 - (a) User generated
 - (b) Other computers or people
 - (c) Sensor
 - (d) PC State
 - (2) Use of Association

Fig. 17

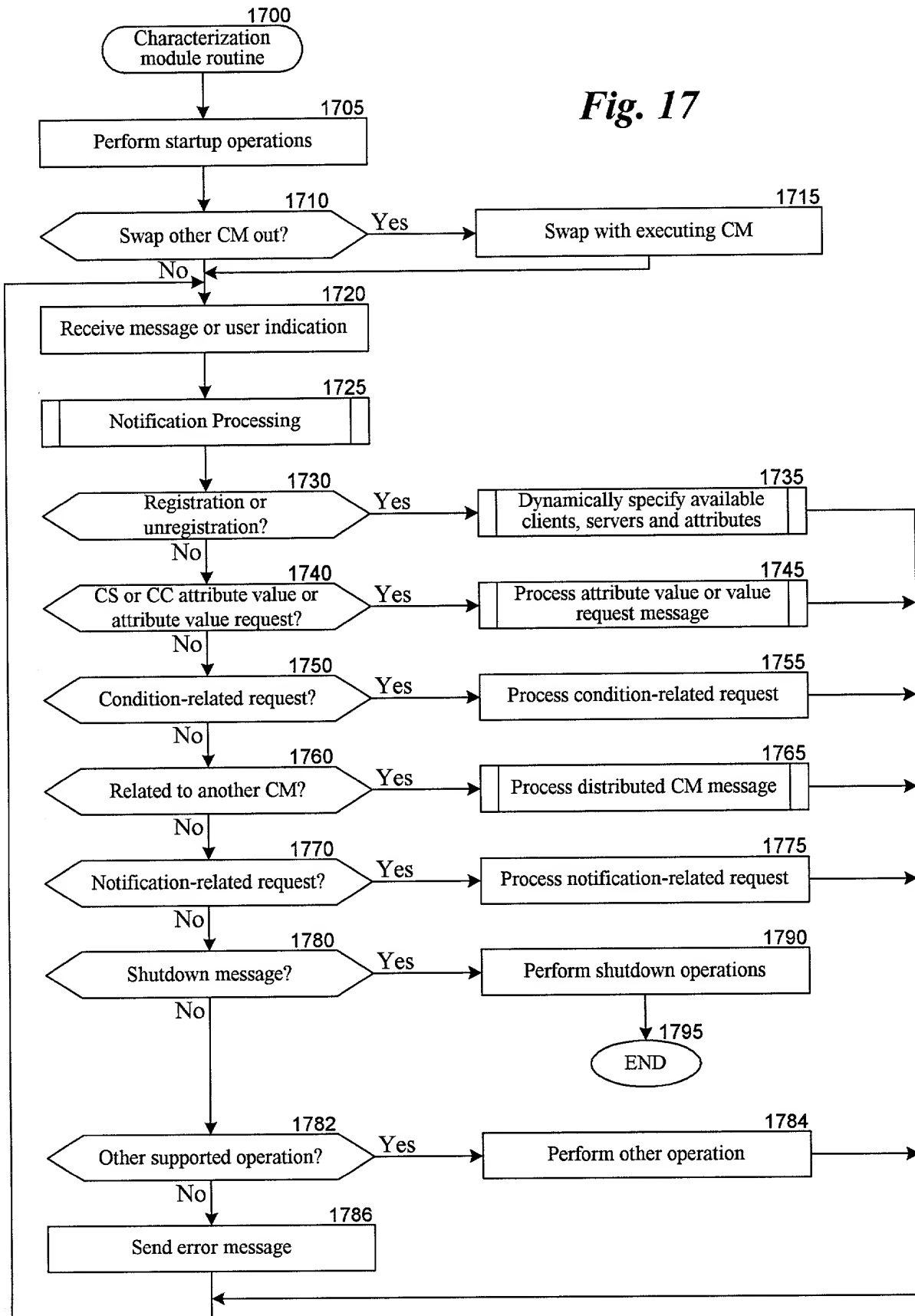


Fig. 18

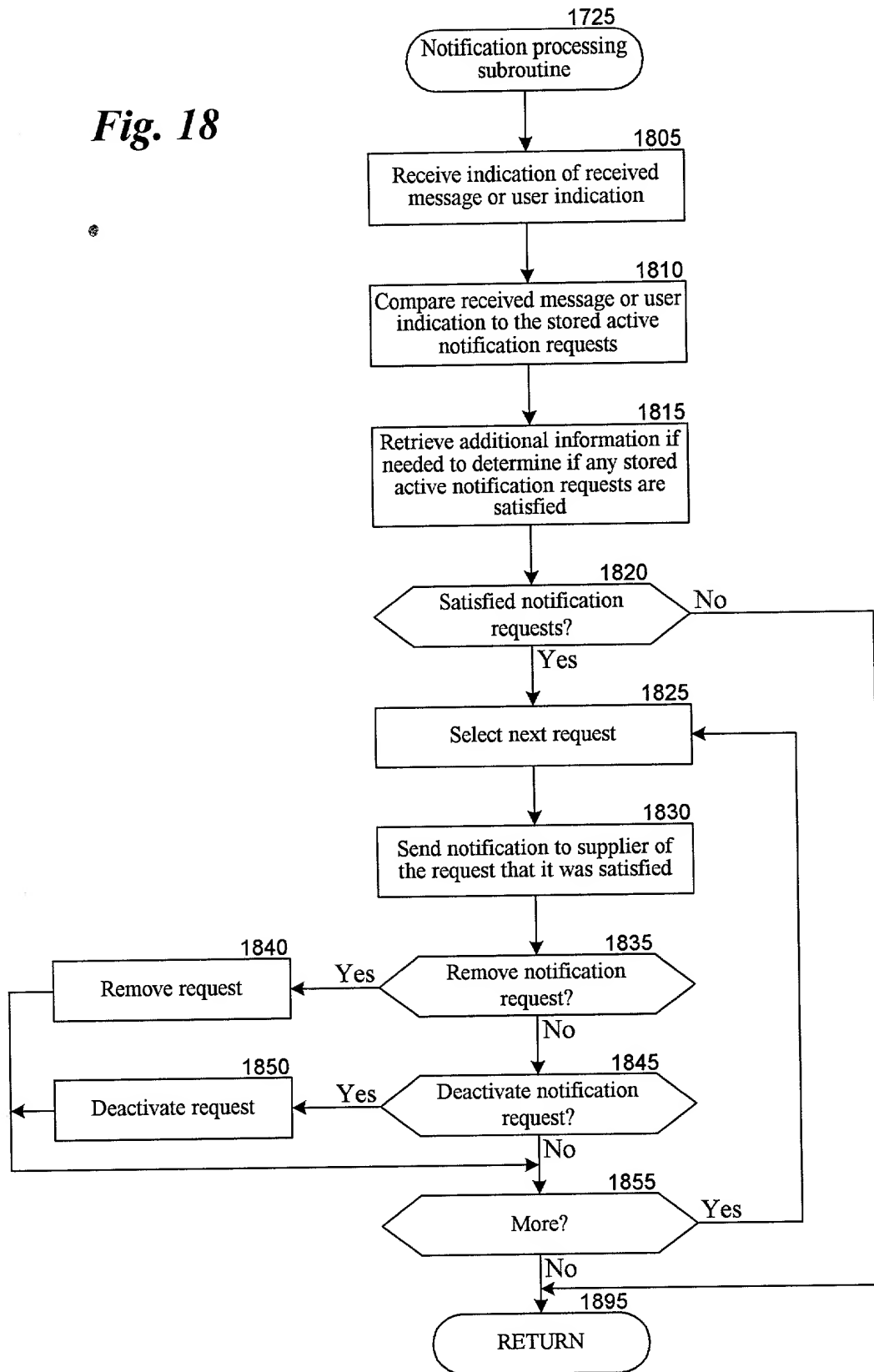


Fig. 19

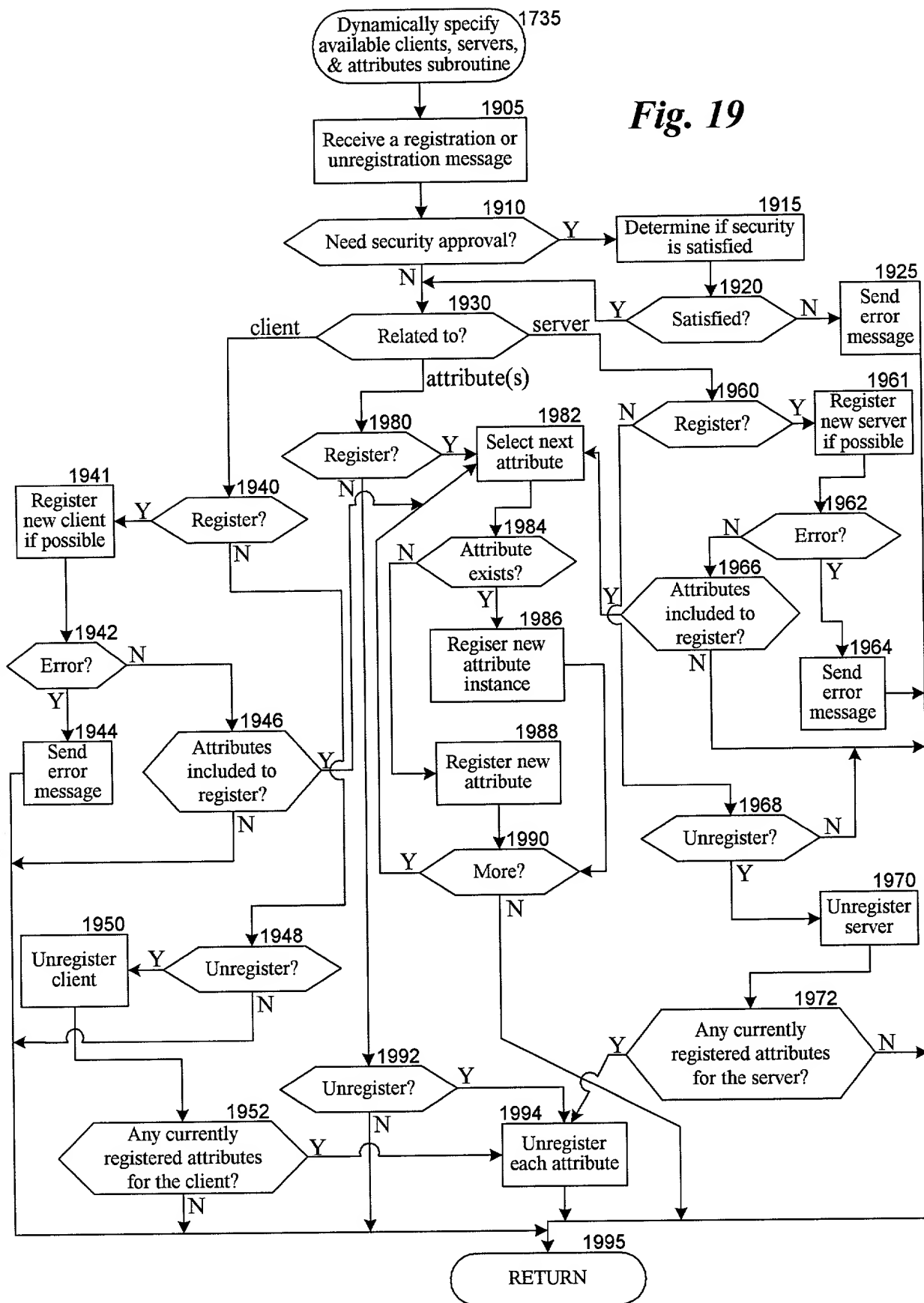


Fig. 20A

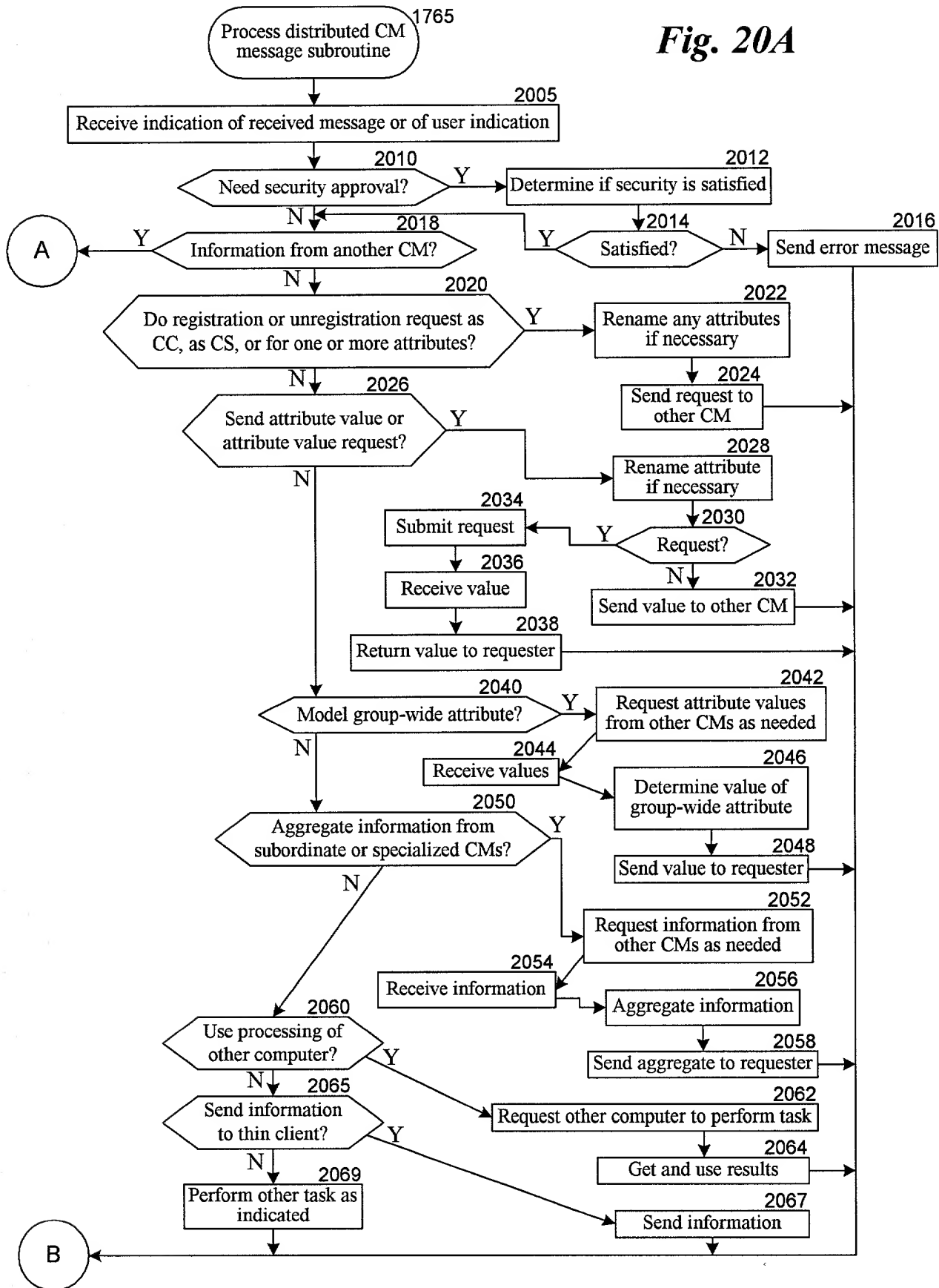


Fig. 20B

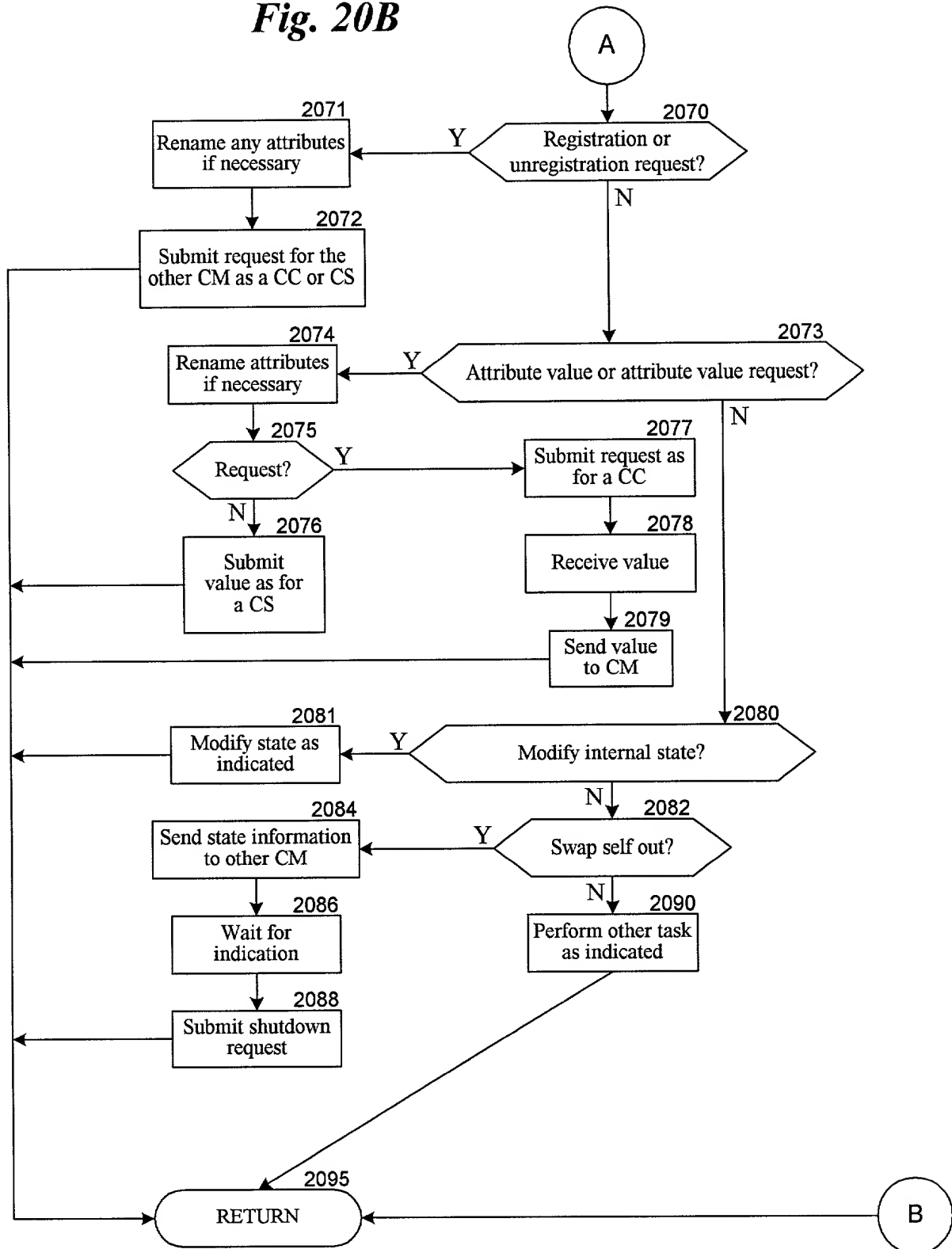


Fig. 21

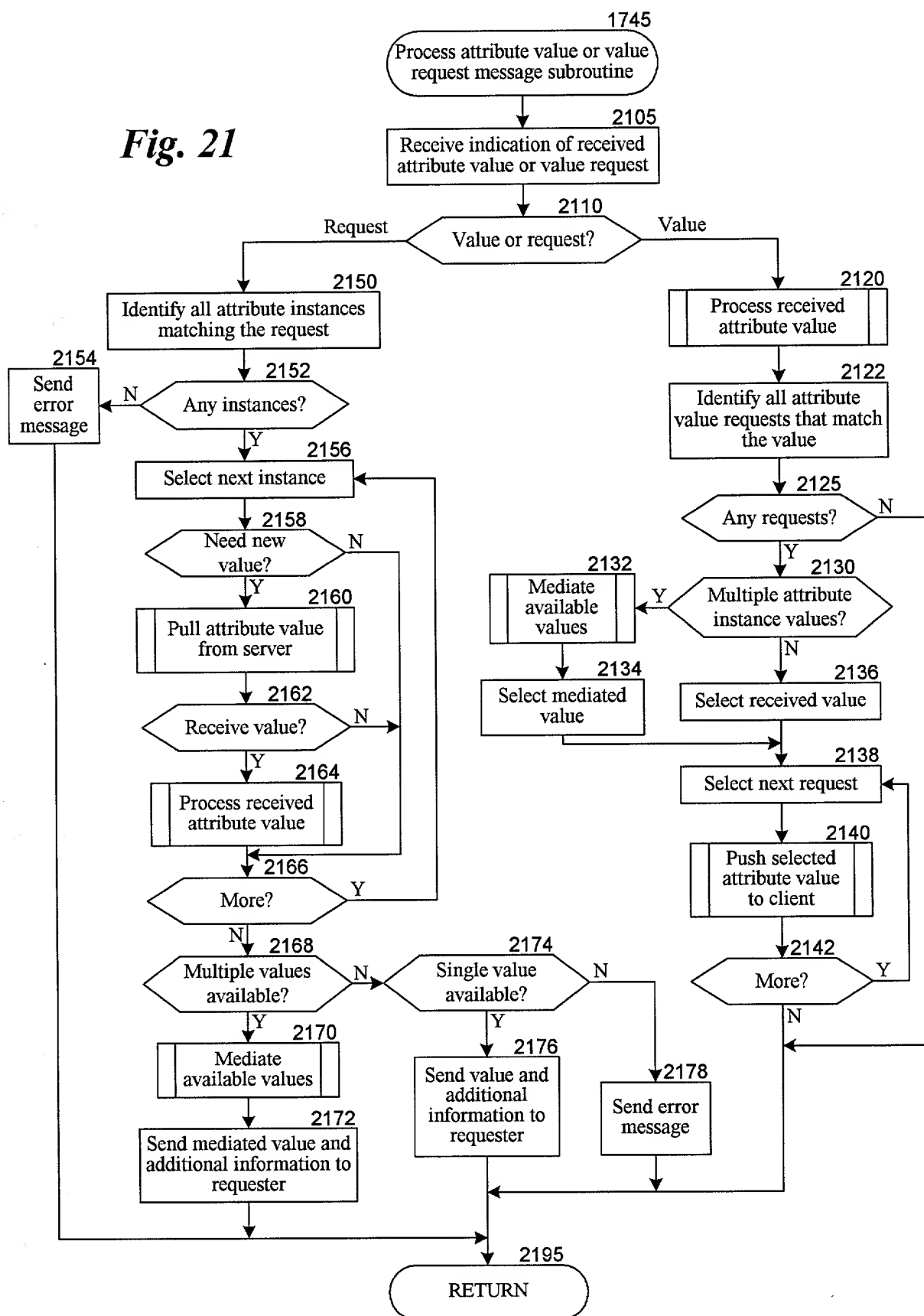


Fig. 22

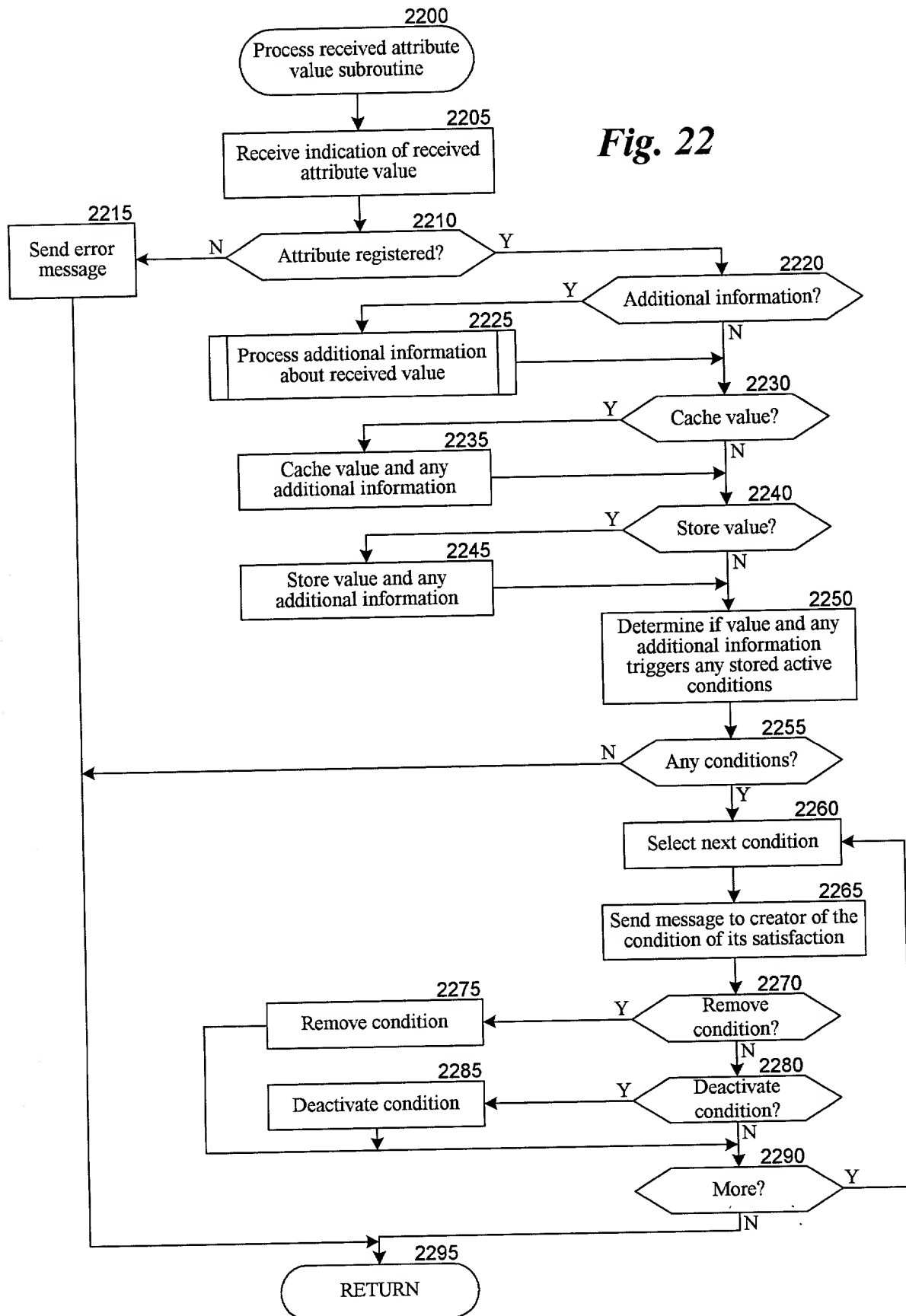


Fig. 23

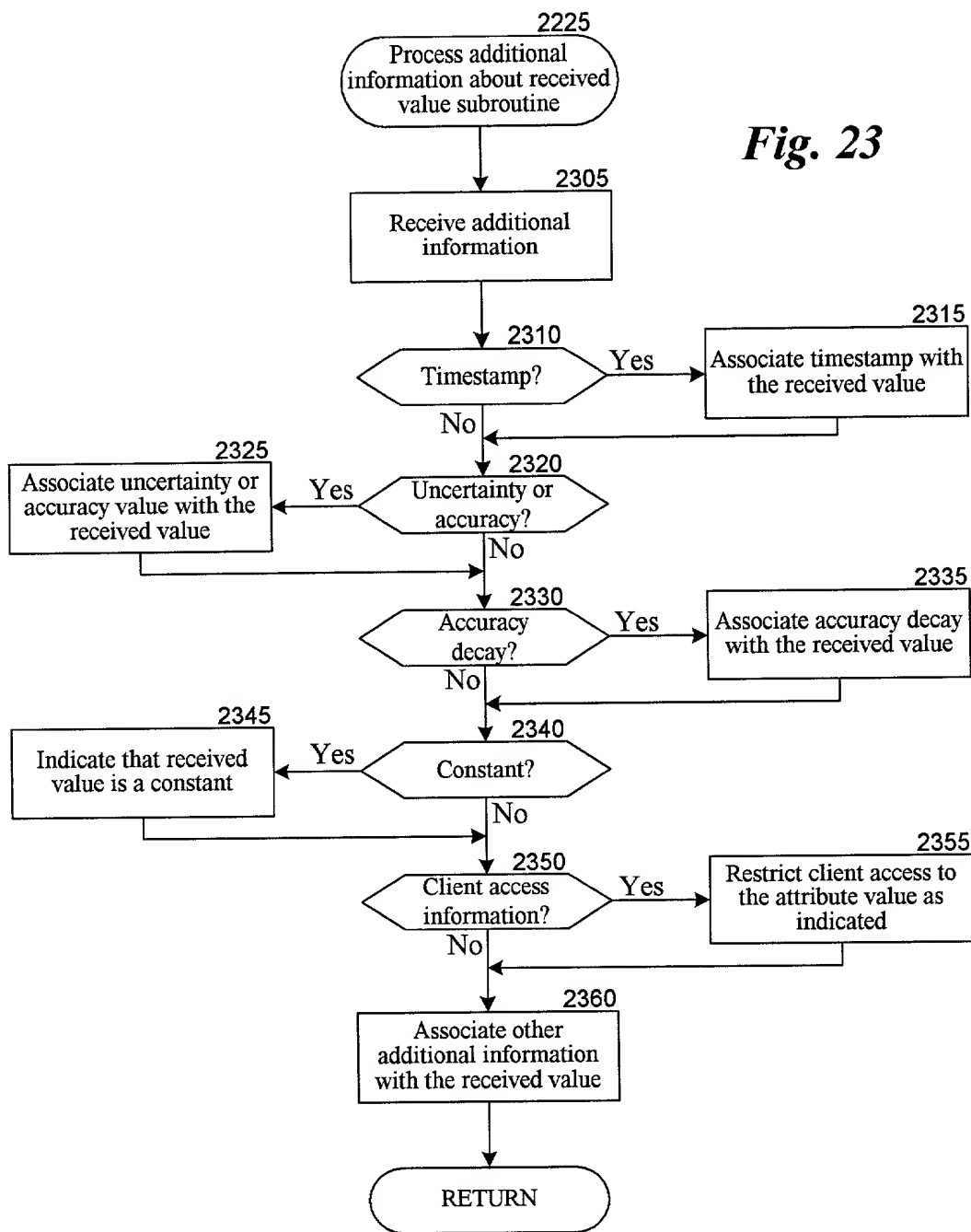


Fig. 24

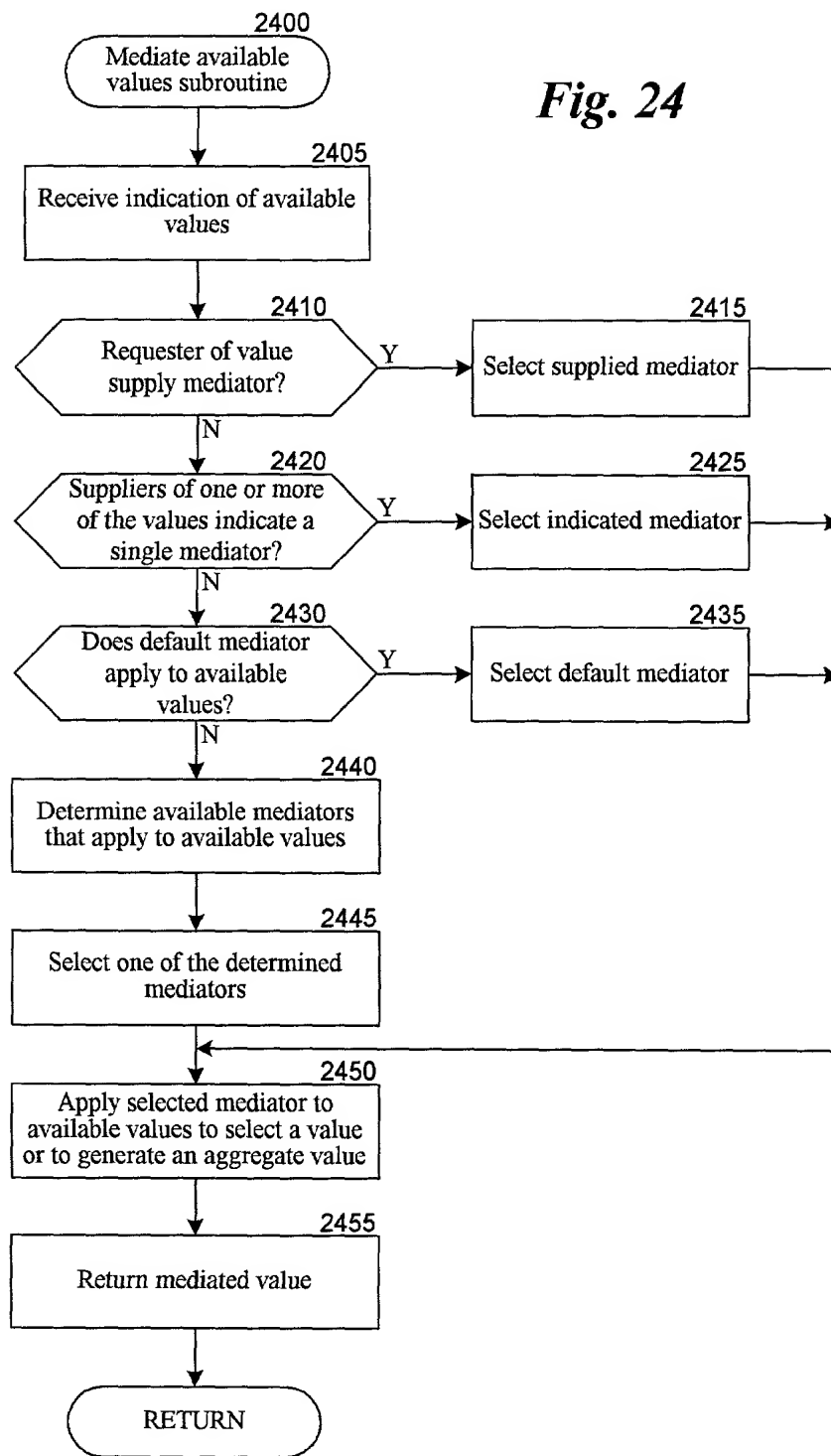
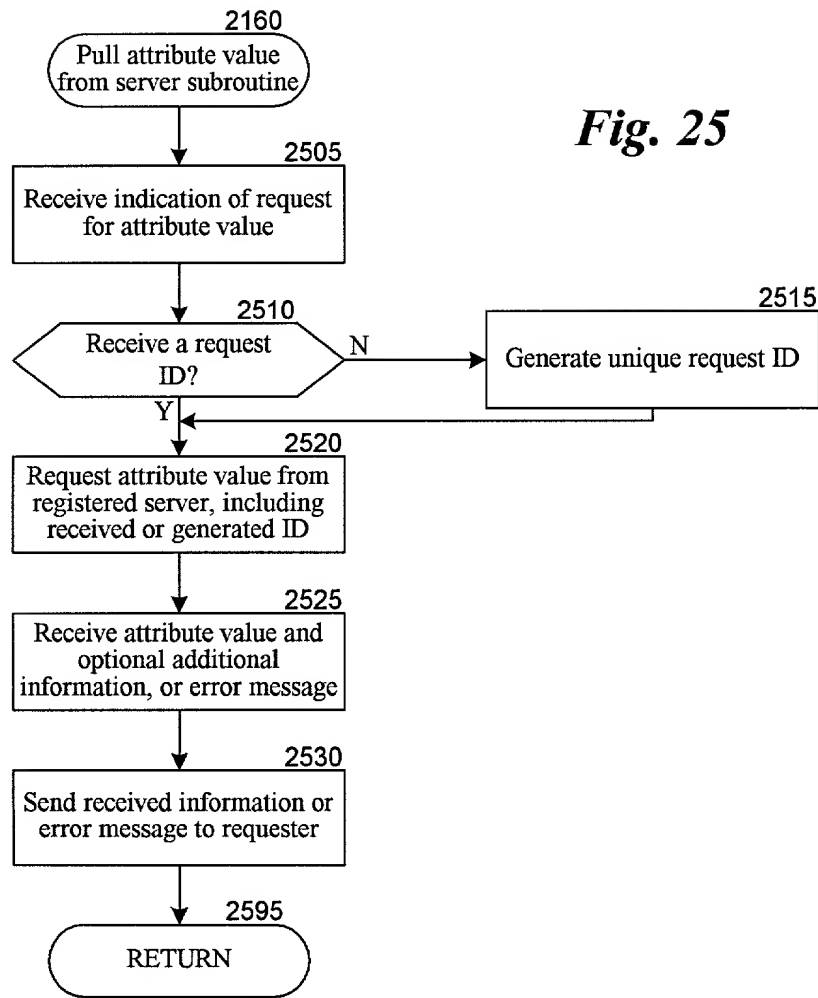


Fig. 25



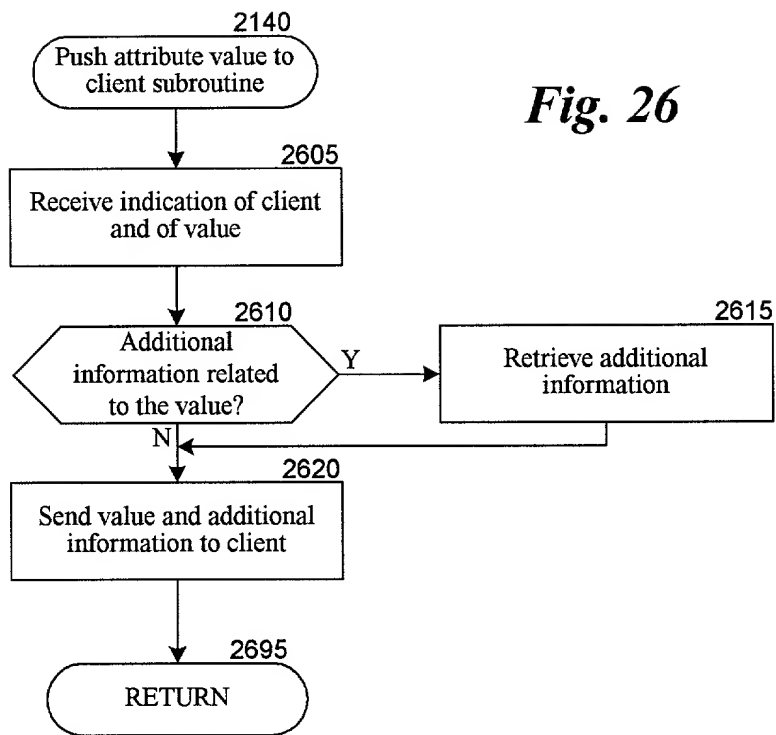


Fig. 26

Fig. 27

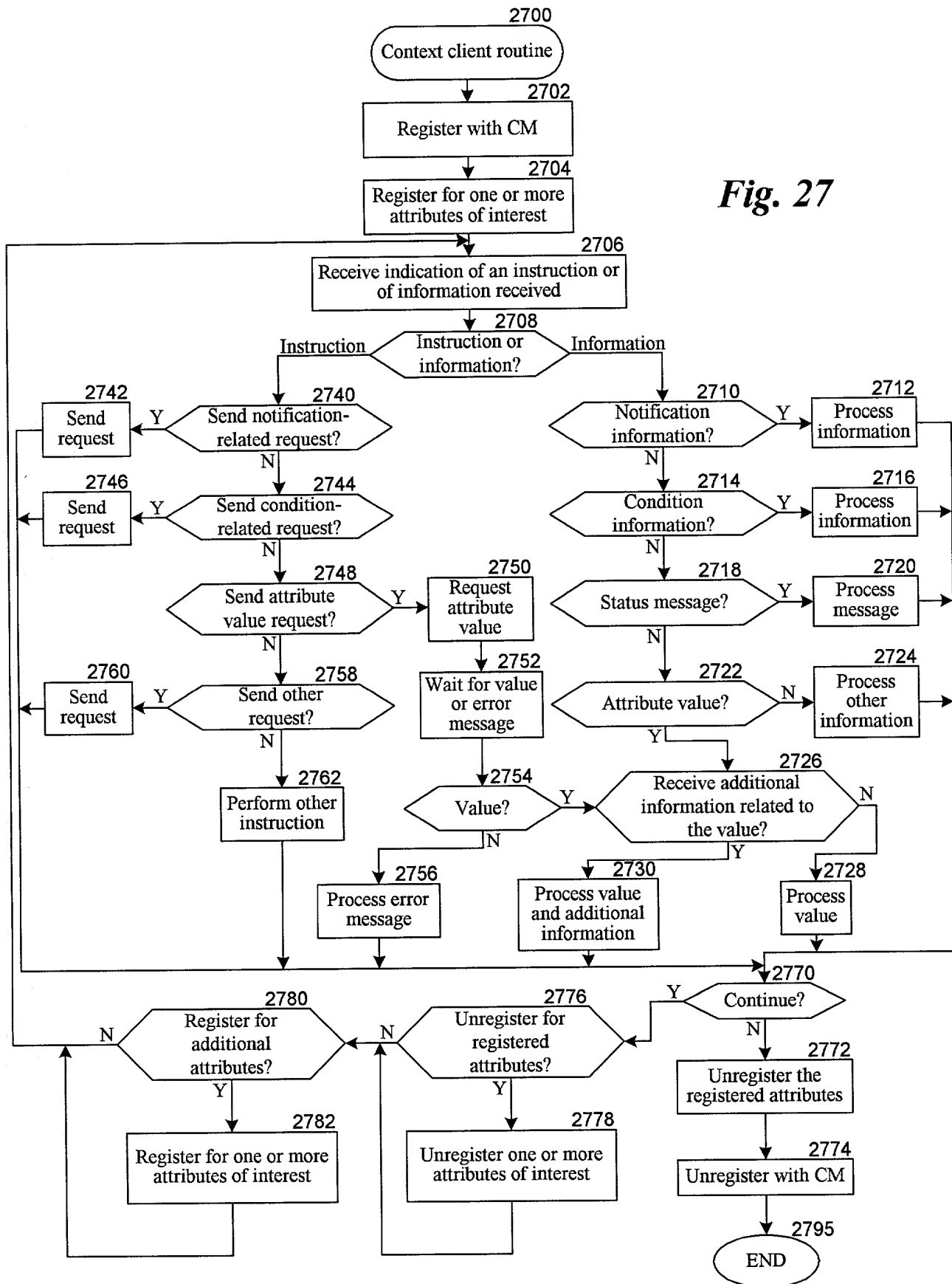


Fig. 28

